

REMARKS

Claims 90-93 and 95-108, 110, 112, and 114-118 are currently pending, with claims 90, 93, 107, 112, and 116 being independent. Applicants respectfully request reconsideration and allowance of the pending claims for at least the following reasons.

The Examiner has rejected claims 90-93, 95-100, and 116-118 as being obvious over Kirwin in combination with U.S. Patent No. 6,162,184 to Swanson et al ("Swanson") and U.S. Patent No. 5,207,672 to Roth et al. ("Roth"). For the reasons set forth below, applicants respectfully request withdrawal of these rejections.

Independent claim 90 recites "moving the energy delivery device to a second selected site in the collagen containing tissue after delivering sufficient energy to the selected site, the second selected site being directly adjacent or overlapping with the selected site." Independent claim 93 recites "delivering sufficient energy with the distal portion of the energy delivery device to a second selected site that is directly adjacent or overlapping the first selected site." Kirwin fails to disclose or suggest moving an energy delivery device to a second selected site that is directly adjacent or overlapping the first selected site. Indeed, Kirwin explicitly teaches against treating areas that are overlapping or that are directly adjacent to one another, such that an area, or a portion thereof, that has been previously elevated to a desired temperature is contacted by the delivery device. Kirwin at 485 ("These areas should not overlap. In fact, it is better to leave a small margin of untouched tissue about each one."). The Examiner's reliance upon Swanson, in combination with Kirwin, does nothing to overcome Kirwin's teaching away from the claimed invention.

Instead of addressing applicants' arguments regarding Kirwin's teaching away, the Examiner asserts that applicants' invention is well known in the art and that Roth et al. specifically teaches that "treating the prostate to reduce its bulk does not occur at a single point, but at a series of linearly placed contiguous treatment points, even when circumferentially separated treatment zones are used." Office action at 2. Applicants respectfully disagree.

Initially, Kirwin's teaching away should be considered, and serves as evidence of the nonobviousness of the presently claimed subject matter. See, e.g., USPTO's New Examination

Guideline on Obviousness, page 57529 of the Federal Register, Vol. 72, No. 195, Wednesday, October 10, 2007, which states that “combining known prior art elements is not sufficient to render the claimed invention obvious if the results would not have been predictable to one of ordinary skill in the art. ‘When the prior art teaches away from combining certain known elements, discovery of successful means of combining them is more likely to be nonobvious.’” (Emphases added and internal citations omitted).

Moreover, in addition to Kirwin’s teaching away from the claimed invention, Roth also teaches away from the techniques employed by Kirwin, and therefore, against the proposed combination of references. Kirwin discloses a method by which an electrode is brought into contact with tissue for an extended period of time to effect a desired depth of energy penetration (e.g., 45 seconds, see, e.g., Kirwin at 484). Roth specifically teaches away from the use of contact probes (e.g., Kirwin’s electrodes) by disclosing that “[d]irect contact of the tip of a fiber transmitting laser energy causes tissue to quickly reach 100C, wherein the tissue water vaporizes creating steam and an explosion, referred to as the ‘popcorn’ effect” and that such direct-contact probes can become covered with charred tissue and require frequent cleaning. Roth at col. 3, line 62-col. 4, line 2. Further, Roth discloses that “if one continuously exposes (i.e., at a zero pull rate) the tissue to the energy source (i.e., Kirwin’s technique), the tissue would dehydrate and be followed by an explosive “popcorn effect” just below the tissue surface. (Roth at col. 14, ll. 65-69). Accordingly, in contrast to Kirwin, Roth discloses a non-contacting laser probe that must be moved “at a rate so as to insure that the tissue does not explode.” Given this, one of ordinary skill in the art would not combine Kirwin with Roth because both references teach away from the proposed combination. In re Grasselli, 713 F.2d 731, 743 (Fed. Cir. 1983) (“[i]t is improper to combine references where the references teach away from their combination.”).

For at least these reasons, applicants respectfully request reconsideration and withdrawal of the rejections of independent claims 90 and 93, and their respective dependent claims, in view of Kirwin, Swanson, and Roth.

Independent claim 116, which was also rejected over Kirwin in view of Swanson and Roth, recites “delivering sufficient energy … to a selected area of collagen containing tissue to effect a contraction of collagen in at least a portion of the collagen containing tissue by moving the distal portion of the energy delivery device back-and-forth over a surface of the selected

area" and "contacting a selected site within the selected area that has previously been elevated to a desired temperature for a desired period of time as a result of the delivery of sufficient energy with the distal portion of the energy delivery device." None of the asserted references teach or suggest these claimed features. As discussed above, Kirwin explicitly teaches away from contacting treatment areas that have previously been elevated to a desired temperature (i.e., areas that overlap or are directly adjacent one another), and Swanson does nothing to overcome this explicit teaching away. Likewise, while the Examiner contends that Roth discloses linearly contiguous treatments zones, Roth's technique involves a single direction linear movement as opposed to the claimed "back-and-forth" motion of the energy-delivery device and, as discussed above, Roth teaches away from the asserted combination of references.

For at least these reasons, applicants respectfully request reconsideration and withdrawal of the rejections of independent claim 116, and its respective dependent claims, in view of Kirwin, Swanson, and Roth.

Finally, applicants note that in asserting the combination of Kirwin with Roth, which is improper for the reasons discussed above, the Examiner appears to have taken official notice, stating that "the production of linear lesions substantially longer than the lesion producing surface of the surgical probe is well recognized in the field of both cardiac and prostatic lesion formation." Office action at 2-3. However, the positions advanced through the official notice do not remedy the deficiencies of Kirwin and Roth discussed above. To the extent that this rejection is maintained, applicants request evidentiary support demonstrating the contention that "the production of linear lesions substantially longer than the lesion producing surface of the surgical probe" is well recognized.

The Examiner has also rejected claims 101-108, 110, 112, 114, and 115 as being obvious over Kirwin in combination with Swanson and Roth, as applied to claims 90-93 and 95-100, and further in view of Sand ('709) ("Sand"). For the reasons set forth below, applicants respectfully request withdrawal of these rejections.

Claims 101-103 depend from claim 90 and claims 104-106 and 115 depend from claim 93. Applicants submit that Sand does nothing to overcome the explicit teaching away from the claimed invention and the Examiner's proposed combination of references, and therefore for at

least the reasons discussed above with respect to independent claims 90 and 93, dependent claims 101-103, 104-106, and 115 are patentable over Kirwin in combination with Swanson and Roth and further in view of Sand.

Likewise, independent claims 107 and 112, and their respective dependent claims, are patentable over the asserted combination of references. Independent claim 107 recites "contacting a selected site in at least the portion of the collagen containing tissue at the joint to which sufficient energy has previously been delivered." Neither Kirwin, Swanson, Roth, nor Sands discloses or suggests such a feature, and in fact, as discussed above, Kirwin teaches away from treating areas that have been previously treated, and Roth teaches away from the proposed combination with Kirwin.

Independent claim 112 recites "moving the energy delivery device to a second selected site after delivering sufficient energy to the selected site, the second selected site being directly adjacent or overlapping with the selected site." For at least the reasons discussed above, with respect to the similar recitation in claim 90, the proposed combination of Kirwin, Swanson, Roth and Sands fails to disclose or suggest such a feature, and Sands does not overcome the references' teaching away from the proposed combination.

For at least these reasons, applicants respectfully request reconsideration and withdrawal of the rejections of claims 101-108, 110, 112, 114, and 115 in view of Kirwin, Swanson, Roth, and Sand.

Finally, contrary to the Examiner's assertions, the method employed by the claimed invention provides certain advantages and unexpected results as discussed in the application as originally filed. For example, referring to the paragraph beginning at page 20, line 3, when the distal portion of the energy delivery device is moved toward a previously heated path, a sensor provides a different signal than it would if it were not traveling toward a previously heated path. This is because the fluid medium will have a higher energy content in the former case than in the latter case. As a result of the elevated thermal energy content, the feedback system of the present invention reduces the amount of energy delivered in the former case. Significantly, this permits the temperature across a selected area of tissue to approach uniformity, which reduces cell necrosis or overcontractions near path intersections. See page 20, lines 12-16. Further, by

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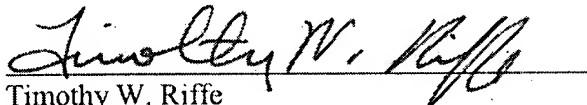
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providing a signal which represents a composite of thermal energies, undesired contractions of collagen fibers are reduced. See page 20, line 17 to page 21, line 10..

Applicants do not acquiesce to the characterizations of the art. For brevity and to advance prosecution, however, applicants may not have addressed all characterizations of the art, but reserve the right to do so in further prosecution of this or a subsequent application. The absence of an explicit response by the applicant to any of the Examiner's positions does not constitute a concession of the Examiner's positions. The fact that applicants' comments have focused on particular arguments does not constitute a concession that there are not other good arguments for patentability of the claims. All of the dependent claims are patentable for at least the reasons given with respect to the claims on which they depend.

Respectfully submitted,

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